



ULTRAVOLT® M SERIES
MINIATURE, MICRO-SIZED
HIGH VOLTAGE BIASING SUPPLIES



**Single-output,
micro-sized
HV modules**

The miniature, micro-sized **M series** is the ideal solution for applications requiring biasing voltage ranging from 0 to 3000 V and very small current—only 16.4 cc (1.00 in³). Less than 12.7 mm (0.5") high, these modules are ideal for low-profile applications.

Features

- › Seven models from 0 to 600, 1000, 1250, 1500, 2000, 2500, or 3000 V
- › Output power: 0.5, 0.8, or 1 W
- › Tight line/load regulation
- › Arc and continuous short circuit protection
- › Self-restoring output voltage
- › Low cost
- › Miniature and lightweight
- › Voltage monitoring
- › Low ripple (0.01% peak to peak)
- › Optional flying lead for high voltage output

Typical Applications

- › Bias supplies
- › Electrostatic chucks
- › Hand held x-ray fluorescence (XRF)
- › Avalanche photo diodes (APD)
- › Photomultiplier tubes (PMT)
- › Silicon detector (SiD)
- › X-ray flat panel detector (FPD)
- › Ionization chamber detector

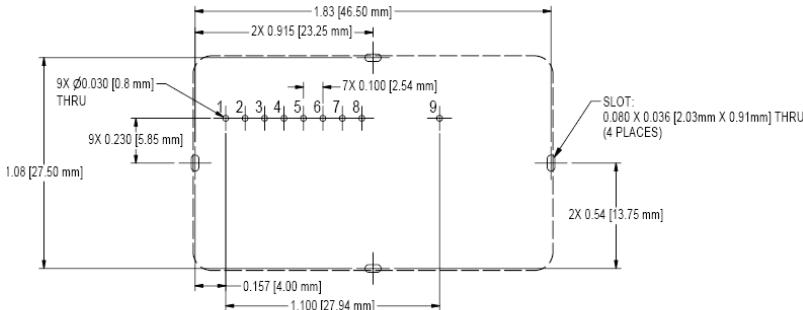
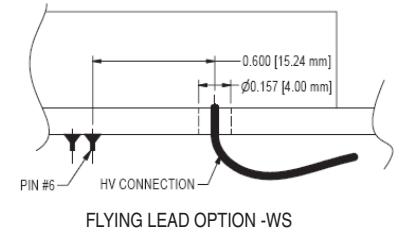
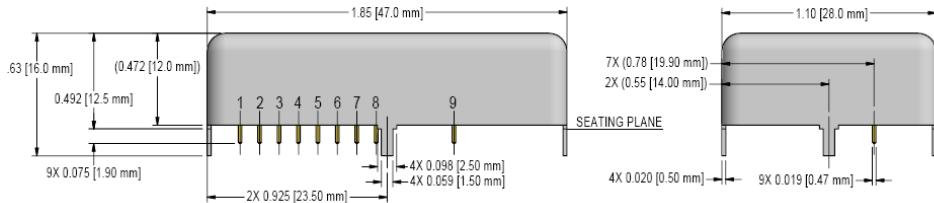




PARAMETER	SPECIFICATIONS						UNITS
Input Voltage Vin (Pins 1 and 2)	5 ± 0.5 (2 to 3 kV ONLY), 12 ± 1 , 15 ± 1 (600 V to 1.5 kV ONLY), or 24 ± 2						VDC
Input Voltage	5 (2 to 3 kV ONLY)			12			
Input Current	No load: 55, full load: 450			No load: 45, full load: 200			
Polarity	Fixed positive and fixed negative						-
Output Voltage	0 to 600			0 to 1000			
Input Voltage	12	15	24	12	15	24	VDC
Output Power	0.5	0.8	1	0.5	0.8	1	W
Output Current	0.83	1.33	1.67	0.5	0.8	1	mA
Output Voltage	0 to 1250			0 to 1500			
Input Voltage	12	15	24	12	15	24	VDC
Output Power	0.5	0.8	1	0.5	0.8	1	W
Output Current	0.4	0.64	0.8	0.33	0.53	0.67	mA
HV Setting	10 to 100 K (potentiometer across Vref. and signal ground, wiper to adjust)						-
Load Voltage Regulation	< 0.01% of full output voltage for no load to full load						VDC
Line Voltage Regulation	< 0.01% of full output voltage over specified input voltage range						VDC
Residual Ripple	< 0.01% at full load						V pk to pk
Temperature Coefficient	100 ppm/ $^{\circ}\text{C}$ for the max output voltage after starting and over temperature range 0 to 50°C						-
Output Voltage Monitoring (600 to 1500 V)	± 1 V/1 kV max or -1 V/-1 kV max according to model polarity output impedance = 200 k Ω $\pm 1\%$						-
Output Voltage Monitoring (2 to 3 kV)	12 to 24 V input only: 0 to $+5$ V $\pm 2\%$ 5 V inputs: 0 to $+2.5$ V $\pm 2\%$						VDC
Reference Voltage	12 to 24 V input only: 5 V $\pm 1\%$, TC: 100 ppm/ $^{\circ}\text{C}$, max output current: 1 mA 5 V inputs: 2.5 V $\pm 1\%$, TC: 100 ppm/ $^{\circ}\text{C}$, max output current: 1 mA						-
Operating Temperature	-10 to +65, full load, max Eout, case temp						$^{\circ}\text{C}$
Storage Temperature	-40 to +70						$^{\circ}\text{C}$
Safeguards	Arc and short circuit protection						-
Options	Flying lead for HV output						-
Enhanced Interface (-EI) Option (2 to 3 kV Only)	Enable/disable (ON/OFF): 0 to $+0.5$ V enable, $+2.4$ V to V_input disable (default = disable) Output current monitor (5 V input only): 0 to $+2.5$ V $\pm 2\%$ Output current monitor (12 to 24 V input): 0 to $+5.0$ V $\pm 2\%$						-



PARAMETER	SPECIFICATIONS						UNITS
Input Voltage Vin (Pins 1 and 2)	5 ± 0.5 (2 to 3 kV ONLY), 12 ± 1 , 15 ± 1 (600 V to 1.5 kV ONLY), or 24 ± 2						VDC
Input Voltage	15 (600 V to 1.5 kV ONLY)						V
Input Current	No load: 40, full load: 190						mA
Polarity	Fixed positive and fixed negative						-
Output Voltage	0 to 2000						VDC
Input Voltage	5	12	24	5	12	24	VDC
Output Power	0.5	0.8	1	0.5	0.8	1	W
Output Current	0.25	0.40	0.50	0.20	0.32	0.40	mA
Output Voltage	0 to 3000						VDC
Input Voltage	5						VDC
Output Power	0.5						W
Output Current	0.167						mA
HV Setting	10 to 100 K (potentiometer across Vref. and signal ground, wiper to adjust)						-
Load Voltage Regulation	< 0.01% of full output voltage for no load to full load						VDC
Line Voltage Regulation	< 0.01% of full output voltage over specified input voltage range						VDC
Residual Ripple	< 0.01% at full load						V pk to pk
Temperature Coefficient	100 ppm/ $^{\circ}\text{C}$ for the max output voltage after starting and over temperature range 0 to 50°C						-
Output Voltage Monitoring (600 to 1500 V)	$+1 \text{ V}/1 \text{ kV}$ max or $-1 \text{ V}/-1 \text{ kV}$ max according to model polarity output impedance = $200 \text{ k}\Omega \pm 1\%$						-
Output Voltage Monitoring (2 to 3 kV)	12 to 24 V input only: 0 to $+5 \text{ V} \pm 2\%$ 5 V inputs: 0 to $+2.5 \text{ V} \pm 2\%$						VDC
Reference Voltage	12 to 24 V input only: $5 \text{ V} \pm 1\%$, TC: 100 ppm/ $^{\circ}\text{C}$, max output current: 1 mA 5 V inputs: $2.5 \text{ V} \pm 1\%$, TC: 100 ppm/ $^{\circ}\text{C}$, max output current: 1 mA						-
Operating Temperature	-10 to +65, full load, max Eout, case temp						$^{\circ}\text{C}$
Storage Temperature	-40 to +70						$^{\circ}\text{C}$
Safeguards	Arc and short-circuit protection						-
Options	Flying lead for HV output						-
Enhanced Interface (-EI) Option (2 to 3 kV Only)	Enable/disable (ON/OFF): 0 to $+0.5 \text{ V}$ enable, $+2.4 \text{ V}$ to V_input disable (default = disable) Output current monitor (5 V input only): 0 to $+2.5 \text{ V} \pm 2\%$ Output current monitor (12 to 24 V input): 0 to $+5.0 \text{ V} \pm 2\%$						-



PCB MOUNTING (TOP VIEW)

Note: Pins 7 and 8 are available for 2 k to 3 kV units with enhanced interface option ONLY.

Drawing views: third angle projections. Measurements are in inches (millimeters).

PHYSICAL SPECIFICATIONS

Construction	Steel, tin-plated thickness 0.5 mm (0.02") Insulation: fully potted in an epoxy resin
Volume	16.4 cc (1.00 in ³)
Weight	35 g (1.23 oz)
Tolerance	
Overall	±0.76 mm (0.030")
Pin to Pin	±0.38 mm (0.015")
Pin to Tab	±0.51 mm (0.020")
Tab to Tab	±0.25 mm (0.010")

Notes: 0.47 mm (0.019") round pins, length: 3 mm (0.12"), spacing: 2.54 mm (0.1")

PCB mounting through 4 mounting tabs, length: 5 mm (0.2"), width: 1.5 mm (0.059"), thickness: 0.5 mm (0.02")

Optional flying lead for HV output: coaxial cable (RG178), diameter: 2 mm (0.079"), length: 500 mm (19.685")

CONNECTIONS

Pin	Function
1	POSITIVE POWER INPUT
2	POWER GROUND
3	SIGNAL GROUND
4	REMOTE ADJUST INPUT
5	REFERENCE VOLTAGE
6	VOLTAGE MONITOR
7	CURRENT MONITOR (available with -EI option only)
8	ENABLE (available with -EI option only)
9	HV OUTPUT

Note: Mounting tabs must be connected to ground.

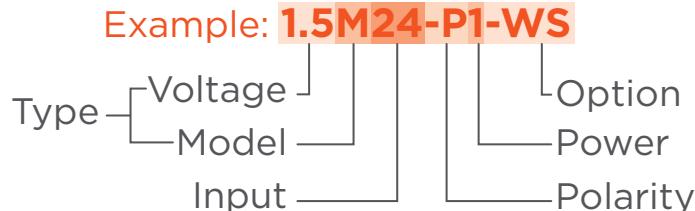


ORDERING INFORMATION

Type	0 to 600 VDC Output	0.6 M
	0 to 1000 VDC Output	1 M
	0 to 1250 VDC Output	1.25 M
	0 to 1500 VDC Output	1.5 M
	0 to 2000 VDC Output	2 M
	0 to 2500 VDC Output	2.5 M
	0 to 3000 VDC Output	3 M
Input	5 VDC Nominal (2 to 3 kV only)	5
	12 VDC Nominal	12
	15 VDC Nominal (600 V to 1.5 kV only)	15
	24 VDC Nominal	24
Power	0.5 W Output	0.5
	0.8 W Output	0.8
	1 W Output	1
Case	Tin Steel Case	(Standard)
Polarity	Positive Output	-P
	Negative Output	-N
Option	Shielded Flying Lead for HV Output (600 V to 1.5 kV)	-WS
	Flying Lead for HV Output (2 to 3 kV only)	-W
	Current Monitor/Enable Pin (2 to 3 kV only)	-EI



RoHS Non-RoHS compliant units are available.
Please contact the factory for more information.



Popular accessories ordered with this product include the PCB-CONN-M/V.

The M series is not available in all territories. Please contact Advanced Energy for details concerning sales in your area.



For international contact information, visit
advanced-energy.com.



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помошь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помошь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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